

REMARKS

Applicant appreciates the thoroughness with which the Examiner has examined the above-identified application. Reconsideration is requested in view of the amendments above and the remarks below.

Rejections under 35 U.S.C. § 112

The Examiner has rejected claims 9 and 13-20 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Specifically, claims 13 and 18 recite the limitation "filter cartridge", for which there is insufficient antecedent basis. Claim 13 also recites the limitation "said at least one clamp" for which there is insufficient antecedent basis. Claim 9 recites the limitation "said claim actuating mechanism", for which there is insufficient antecedent basis.

Applicant has amended claims 9, 13, 15 and 17 to provide proper antecedent basis to the aforementioned limitations.

Rejections under 35 U.S.C. § 102

Claims 1, 3-4, 6, and 8-17 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Hunter (U.S. Patent No. 5,114,572). Applicant respectfully traverses this rejection.

Hunter teaches a filter assembly having a filter bowl, a cartridge, and a head, in which the filter bowl can be removed after it has descended from the filter head. A flange of the cartridge and a slotted buttress of the bowl establish a mechanical connection between

the filter bowl and the cartridge so that the filter bowl and the filter cartridge are together mounted to, and demountable from, the filter head. Hunter depicts radially projecting, non-movable, bayonet locking elements, which are complementary to three vertically formed, horizontally interrupted buttresses, disposed at ninety degree intervals about the axis of the bowl. Hunter, col. 3, ll.41-52. The filter bowl of Hunter is attached and secured by rotating to engage the bayonet locking elements 77 into the grooves 48. Hunter, col. 5, ll.30-62; Figs. 4a and 4b. The radially projecting bayonet locking elements are complementary to the buttresses 44. Hunter, col. 4, ll.37-42. Essentially, the locking mechanism of the Hunter design is engaged by rotating bayonet extensions so that they are inserted within grooves and line up with buttresses. There are no moving clamp elements in the Hunter design.

Importantly, Hunter does not teach, suggest, or disclose a clamp actuating mechanism that works in sliding mechanical communication with a linear cam. "The clamp actuator may comprise a linear cam in mechanical communication with the at least one clamp, a rotary cam in conjunction with a linear cam." Specification, p.1, ll.27-29. The present invention teaches and discloses one or more clamps, which are positioned in their respective horizontal plane around the corresponding rims of the head and the sump. In the present invention, the clamps are moved outwards by the clamp actuating mechanism until the corresponding rims are cleared for opening the filter housing. Fig. 3. A cam is a linear linkage or mechanism that *translates* motion. The clamp actuating mechanism of the present invention includes a device (linear cam) that translates one directional motion into another directional motion to engage the clamps in an open or closed position through either direct translation or rotational translation. Specification, p.5, ll.9-18. Hunter is completely silent

with respect to a clamp actuating member in sliding mechanical communication with a linear cam for establishing a translating force.

The Examiner refers to Hunter's handle 88 as a linear cam. Applicant respectfully disagrees. The handle 88 defined by Hunter is a one-directional locking lever, not a translational linear cam, i.e., it does not translate motion from one direction to another. In the Hunter design, when the lower part of the handle is depressed, the upper part unlocks the bowl. Hunter, Fig. 2. In the present invention, the linear cam *translates* motion from one direction to another; to wit, motion in the direction of the actuator causes a *perpendicular* motion against the clamps.

The clamp actuating mechanism comprises a linear cam 130 having a push button end 140, a stub nose 150 distal from push button 140, and an angled portion 160. *Linear cam 130 translates motion in the direction of arrow A into a perpendicular motion that actuates clamps 100, 100' in an open or closed position through direct translation.*

Specification, p.6, ll.34-p.7, l.6 (emphasis added).

Applicant has amended claim 1 to define the clamp actuator to include a linear cam in sliding mechanical communication with at least one clamp. Applicant has cancelled claim 6, which claimed a similar limitation. Applicant has also added claim 21 to further define the clamp actuator over the cited prior art of Hunter.

Regarding claim 13, applicant respectfully submits that the handle 88 of the Hunter design, as shown in Fig. 2, does not actuate or move "at least two clamps" as claimed by the present invention. Furthermore, as discussed above, the handle 88 of Hunter does not *translate* motion from one direction to motion in another direction, as the linear cam mechanism of the present invention is designed to do. Applicant has amended claim 13 to distinctly claim this translation.

Applicant respectfully submits that the aforementioned amendments place the claims in a condition of allowance over the cited prior art of Hunter.

Rejections under 35 U.S.C. § 103

Claim 2 stands rejected under 35 U.S.C. § 103(a) as being obvious from Hunter in view of Chiang (U.S. Patent No. 5,294,335). Applicant respectfully traverses this rejection.

For the reasons cited above, neither Hunter nor Chiang teaches, discloses, or suggests a linear cam in sliding mechanical communication with a clamp. Moreover, no translational motion is performed by either prior art reference, which is understood to be present in a cam configuration.

Claims 5, 7 and 18-20 stand rejected under 35 U.S.C. § 103(a) as being obvious from Hunter in view of Johnston (U.S. Patent No. 831,353). Applicant respectfully traverses this rejection.

The Examiner states that Hunter does not disclose a filter housing with a clamp being positioned in a horizontal plane around corresponding rims of the head and the sump. Applicant concurs. However, the Examiner further states that Johnston discloses a head and a sump and a clamp, where the clamp is in a horizontal plane around corresponding rims of the head and the sump. Applicant respectfully disagrees.

Johnston does not teach or suggest clamping a head to a sump. Johnston teaches clamping a kettle cover to a kettle. Johnston shows a "clamp" at two points on the rim of the kettle cover; "bent or hooked ends 9 and 10 of the respective arms in engagement with the edge of the over and the outer wall of the vessel." Johnston, col.2, ll.69-72. Neither Hunter nor Johnston teaches positioning the clamps in a horizontal plane in partial circumferential contact around corresponding rims, as depicted in the present invention in Figs. 3 and 5.

Applicant has amended claim 5 to include the partial circumferential contact of the clamps of the present invention as depicted in Figs. 3 and 5.

Furthermore, although Johnston does suggest a rotational cam translating linear motion, there is no teaching or suggestion of the rotary cam as described by the present invention.

Rotary cam 510 has a center slot 530 that is fitted to an axial pin 540 extending from a top surface of head 500. Rotary cam 510 further includes a first linear track 550 and a second linear track 550' equidistant from slot 530 and being parallel to one another. ... Tracking pins 560, 560' extending from the top surface of clamps 570, 570' travel within each of the linear tracks when rotary cam 510 is engaged when linear cam 520 is moved in the direction of arrow B.

Specification, p.10, ll.9-18.

Applicant has amended claims 7 and 18 to more distinctly claim the rotary cam of the present invention, which applicant submits will distinguish the present invention over the combination of Hunter and Johnston.

It is respectfully submitted that the application has now been brought into a condition where allowance of the entire case is proper. Reconsideration and issuance of a notice of allowance are respectfully solicited.

Respectfully submitted,



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